

Listing of Claims:

1. (Original) A method of using hue to interpolate color pixel signal values comprising:
for a particular pixel location in a subsampled image, comparing relative changes in hue for two mutually orthogonal directions across said particular pixel location; and
computing a color signal value for that particular pixel location for a color plane other than the color plane of the pixel signal value in the subsampled color image at that location, the computation including relatively weighing the relative changes in hue, the relative weights depending, at least in part, on the difference in hue value in one particular direction relative to the other.
2. (Original) The method of claim 1, wherein computing a color signal includes relatively weighing the differences in hue by relatively weighing more heavily the difference in hue associated with the direction having a difference in hue less relatively for the particular pixel location.
3. (Previously Presented) The method of claim 2, wherein the subsampled image comprises an image in RGB color space format including an R plane, a G plane and a B plane.
4. (Original) The method of claim 3, wherein the subsampled color image comprises a Bayer pattern.
5. (Original) The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the R color plane;
the two mutually orthogonal directions comprising the horizontal and vertical directions;
the particular color plane for the color signal value being computed comprising the G plane.
6. (Original) The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the B color plane;
the two mutually orthogonal directions comprising the horizontal and vertical direction; and
the particular color plane for the color signal value being computed comprising the G plane.

7. (Previously Presented) The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the R color plane;

the two mutually orthogonal directions comprising main diagonal and secondary diagonal directions;

the particular color plane for the color signal value being computed comprising the B plane.

8. (Currently Amended) ~~The method of claim 7,~~

A method of using hue to interpolate color pixel signal values comprising:

for a particular pixel location in a subsampled image comprising an image in a Bayer pattern RGB color space format including an R plane, a G plane and a B plane, comparing relative changes in hue for mutually orthogonal main diagonal and secondary diagonal directions across said particular pixel location; and

computing a B plane color signal value for that particular pixel location in the R color plane of the subsampled color image, the computation including relatively weighing the relative changes in hue by, at least in part, relatively weighing more heavily the difference in hue associated with the direction having a difference in hue less relatively for the particular pixel location;

wherein the interpolation of a blue pixel signal value at a green pixel location is based at least in part on computed B pixel signal value levels for red pixel locations adjacent said green pixel location and also on existing blue pixel locations adjacent said green pixel location in a mutually orthogonal direction to said adjacent red pixel locations in the subsampled color image.

9. (Previously Presented) The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the B color plane;

the two mutually orthogonal directions comprising main diagonal and secondary diagonal directions;

the particular color plane for the color signal value being computed comprising the R plane.

10. (Currently Amended) ~~The method of claim 9;~~

A method of using hue to interpolate color pixel signal values comprising:

for a particular pixel location in a B color plane of a subsampled image comprising a Bayer pattern in RGB color space format, comparing relative changes in hue for main diagonal and secondary diagonal directions across said particular pixel location; and

computing an R color plane signal value for that particular pixel location by relatively weighing the relative changes in hue, the relative weights depending, at least in part, on the difference in hue value in one particular direction relative to the other;

wherein computing a color signal includes relatively weighing the differences in hue by relatively weighing more heavily the difference in hue associated with the direction having a difference in hue less relatively for the particular pixel location; and

wherein the interpolation of a red pixel signal value at a green pixel location is based at least in part on computed R pixel signal value levels for blue pixel locations adjacent said green pixel location and also on existing red pixel locations adjacent said green pixel location in a mutually orthogonal direction to said adjacent blue pixel locations in the subsampled color image.

11. (Previously Presented) The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the G color plane;

the two mutually orthogonal directions comprising the horizontal and the vertical directions;

the particular color plane for the color signal value being computed comprising the B plane.

12. (Previously Presented) The method of claim 4, wherein the color plane of the pixel signal value at said particular pixel location comprises the G color plane;

the two mutually orthogonal directions comprising the horizontal and the vertical directions;

the particular color plane for the color signal value being computed comprising the R plane.

13. (Original) An article comprising:

a storage medium, having stored thereon instructions, which, when executed by a system capable of executing the instructions, result in interpolating color pixel signal values from a subsampled image by:

for a particular pixel location in the subsampled image, comparing changes in hue for two mutually orthogonal directions across said particular pixel location; and

computing a color signal value for that particular pixel location for a color plane other than the color plane of the pixel signal value in the subsampled color image at that location by relatively weighing the differences in hue, the relative weights depending, at least in part, on the difference in hue in a particular direction relative to the other direction.

14. (Original) The article of claim 13, wherein the instructions, when executed, further result in interpolating color pixel signal values from a subsampled image in RGB color space format.

15. (Original) The article of claim 13, wherein the instructions, when executed, further result in interpolating color pixel signal values from a Bayer pattern image.

16. (Original) An integrated circuit comprising;

electronic circuitry adapted to process pixel signal values;

wherein said electronic circuitry is further adapted to interpolate color pixel signal values from a subsampled image by:

for a particular pixel location in the subsampled image, comparing changes in hue for two mutually orthogonal directions across said particular pixel location; and

computing a color signal value for that particular pixel location for a color plane other than the color plane of the pixel signal value in the subsampled color image at that location by relatively weighing the differences in hue, the relative weights depending, at least in part, on the difference hue in a particular direction relative to the other direction.

17. (Original) The integrated circuit of claim 16, wherein said electronic circuitry is further adapted to interpolate color pixel signal values from a subsampled image in RBG color space format.

18. (Original) The integrated circuit of claim 16, wherein said electronic circuitry is further adapted to interpolate color pixel signal values from a Bayer pattern image.

19. (Previously Presented) A system comprising;
a computing platform adapted to process pixel signal values;
wherein said computing platform is further adapted to interpolate color pixel signal values from a subsampled image by:

for a particular pixel location in the subsampled image, comparing differences in hue for two mutually orthogonal directions across said particular pixel location; and

computing a color signal value for that particular pixel location for a color plane other than the color plane of the pixel signal value in the subsampled color image at that location by relatively weighing the difference in hue, the relative weights depending, at least in part, on the difference in hue in a particular direction relative to the other direction.

20. (Previously Presented) The system of claim 19, wherein said computing platform is further adapted to interpolate color pixel signal values from a subsampled image in RBG color space format.